

Amendments of the Claims:

A detailed listing of all claims in the application is presented below. This listing of claims will replace all prior versions, and listings, of claims in the application. All claims being currently amended are submitted with markings to indicate the changes that have been made relative to immediate prior version of the claims. The changes in any amended claim are being shown by strikethrough (for deleted matter) or underlined (for added matter).

1. (Currently amended) A VCT mechanism for adjusting and maintaining an angular relationship between a cam shaft and a crank shaft or another shaft using a pressurized fluid, the VCT mechanism having a phaser using the pressurized fluid for adjusting and maintaining the angular relationship, the pressurized fluid flows from a fluid source to a fluid sink, the VCT mechanism comprising:

a locking pin being disposed to engage a recess, wherein the pressurized fluid is allowed to flow therein, to thereby disengage the locking pin from the recess;

a spool valve controlling the flow of the pressurized fluid for adjusting and maintaining the angular relationship, and an extra land disposed to control the timing of the pressurized fluid flowing from the fluid source toward the recess and from the recess toward the fluid sink; and

a set of independent passages being substantially independent of passages for maintaining fluid communication between at least one advance chamber and at least one retard chamber disposed to have fluid flowing therein, the set of passages including:

a first passage disposed to have fluid flowing therein, the first passage having a first end disposed to be in fluid communication with the fluid source and a second end;

a second passage disposed to have fluid flowing therein, the second passage having a first end disposed to be in fluid communication with the second end of the first passage, the second passage

further having a second end in fluid communication with the recess; and

a third passage disposed to have fluid flowing therein, the third passage having a first end disposed to be in fluid communication with the first end of the second passage, the third passage further having a second end in fluid communication with the fluid sink.

2. (Original) The VCT mechanism of claim 1, wherein the spool valve is disposed to control the fluid communication between the first end of the second passage and the second end of the first passage.
3. (Original) The VCT mechanism of claim 1, wherein the spool valve is disposed to control the fluid communication between the first end of the second passage and the first end of the third passage.
4. (Original) The VCT mechanism of claim 1, wherein the spool valve is a center mounted spool valve disposed to be within the phaser.
5. (Original) The VCT mechanism of claim 1, wherein the another shaft is a cam or crank shaft.
6. (Cancelled)
7. (Original) The VCT mechanism of claim 1, wherein the VCT mechanism is a CTA VCT system.
8. (New) In a VCT mechanism for adjusting and maintaining an angular relationship between a cam shaft and a crank shaft or another shaft using a pressurized fluid, the VCT mechanism having a phaser using the pressurized fluid for adjusting and maintaining the angular relationship, the pressurized fluid flows from a fluid source to a fluid sink, a method comprising the steps of:

providing a locking pin being disposed to engage a recess, wherein the pressurized fluid is allowed to flow therein, to thereby disengage the locking pin from the recess;

providing a spool valve controlling the flow of the pressurized fluid for adjusting and maintaining the angular relationship, and an extra land disposed to control the timing of the pressurized fluid flowing from the fluid source toward the recess and from the recess toward the fluid sink;

providing a set of independent passages being substantially independent of passages for maintaining fluid communication between at least one advance chamber and at least one retard chamber disposed to have fluid flowing therein, the set of passages including:

a first passage disposed to have fluid flowing therein, the first passage having a first end disposed to be in fluid communication with the fluid source and a second end;

a second passage disposed to have fluid flowing therein, the second passage having a first end disposed to be in fluid communication with the second end of the first passage, the second passage further having a second end in fluid communication with the recess; and

a third passage disposed to have fluid flowing therein, the third passage having a first end disposed to be in fluid communication with the first end of the second passage, the third passage further having a second end in fluid communication with the fluid sink; and

based upon the positioning of the extra land, disengaging the lock pin immediately before unlocking the VCT mechanism for fluid communication between at least one advance chamber and at least one retard chamber.

9. (New) The method of claim 8, wherein the spool valve is disposed to control the fluid communication between the first end of the second passage and the second end of the first passage.

10. (New) The method of claim 8, wherein the spool valve is disposed to control the fluid communication between the first end of the second passage and the first end of the third passage.
11. (New) The method of claim 8, wherein the spool valve is a center mounted spool valve disposed to be within the phaser.
12. (New) The method of claim 8, wherein the another shaft is a cam or crank shaft.
13. (New) The method of claim 8, wherein the VCT mechanism is a CTA VCT system.